

Fig. 1

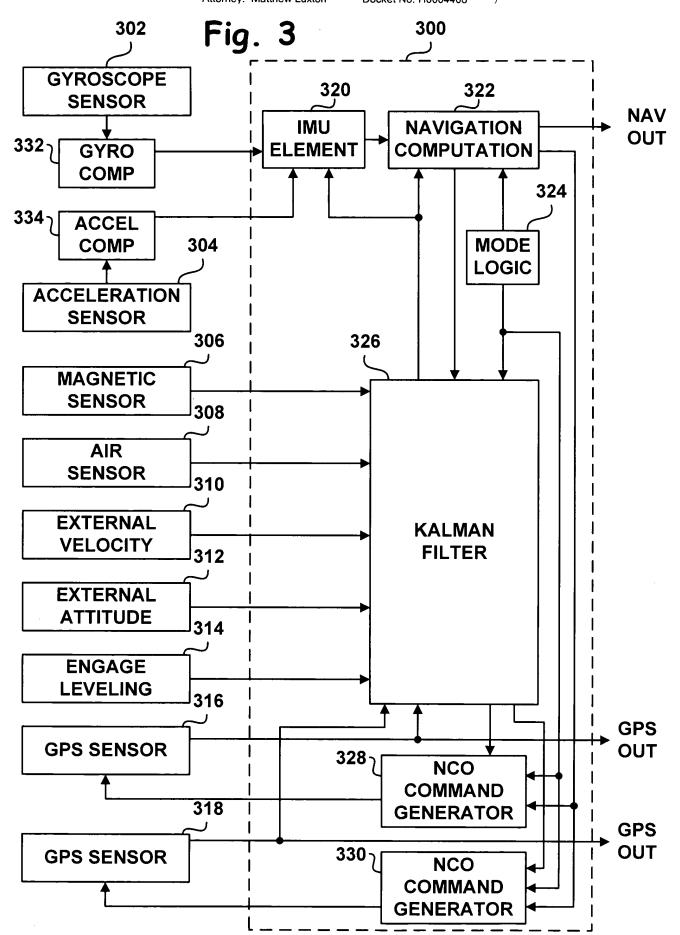
Inventor: Charles T. Bye Sheet 2 of 6
Title: System and Method For Using Multiple Aiding
Sensors In A Deeply Integrated Navigation System
Attorney: Matthew Luxton Docket No. H0004408

Aiding Source	Navigation Output		Engage
	Position/Velocity**	Attitude	Leveling*
GPS PVT	Yes	Yes	No
GPS PR/DR	Yes	Yes	No
GPS Heading	No	Yes	Yes
Magnetometer	No	Yes	Yes
Air Data	No	Yes	Yes
Velocity	Yes	Yes	No
Odometer	Yes	Yes	No
Attitude	No	Yes	Yes
Change in Attitude	No	Yes	Yes
Deep Integration	Yes	Yes	No

Notes:	
	Leveling is engaged only if all engaged aiding sources do not compute Postion and Velocity and if the quality of the inertial sensors are not sufficient to compute position and velocity to the level required by the application's attitude requirements. Leveling may not be engaged immediately when the aid becomes unavailable based on time or the Kalman Filter covariances.
** If any aiding source with "yes" is enabled (e.g. GPS PVT) then Postion and V output are available	

Fig. 2

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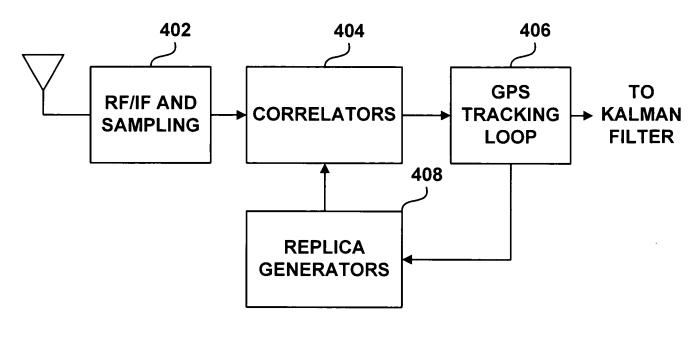
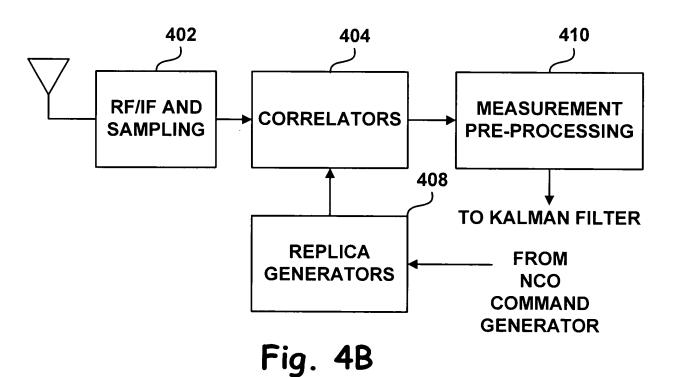
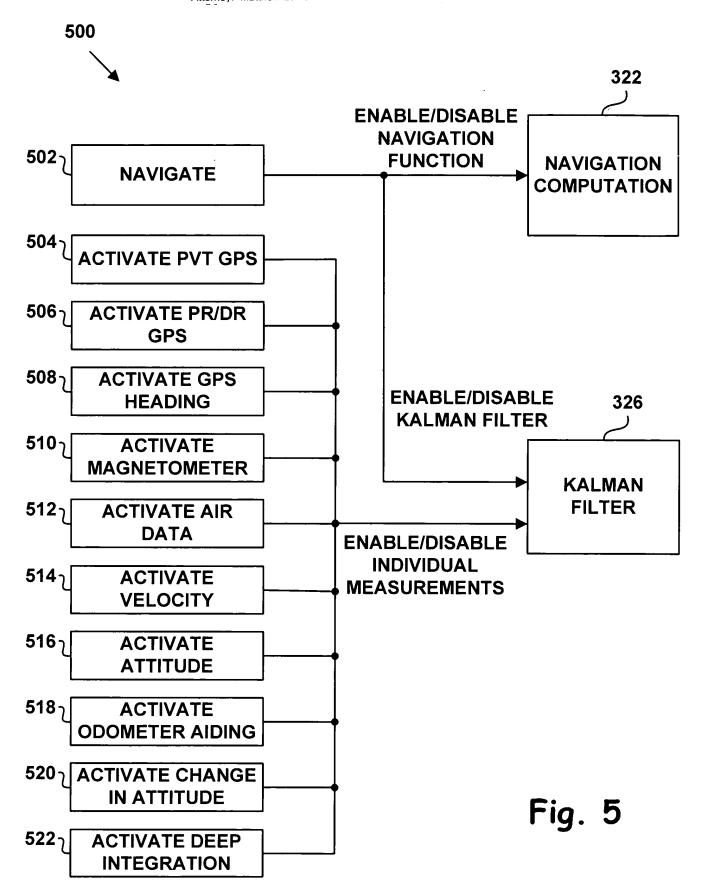


Fig. 4A



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